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myrmex barbatus, Smith. However, the popular name given by Lincecum, "Agricultural Ants," will be permanent, except perhaps in Texas, where the people will doubtless continue to call the insects the "Stinging Ants."

Remarks on Ants —Prof. LEIDY remarked that he had read Mr. Lincecum's communications on the habits of the agricultural ant of Texas with much interest, and that he was disposed to take a different view of some of his observations from the author. He considered the clearing of a space around the nest, with the exception of a grass that grew thereon, and the collection of the seeds of the grass when ripe, all very probable, but he suspected that the sowing of the seed was accidental rather than intentional. If the grass seeds are favorite food, many may be accidentally dropped and left on the clear space in carrying them from the surrounding region to the nest, and the lost seeds germinating may supply the future harvest field.

He further stated that, during his trips in the summer to the Rocky Mountains, he had observed, through the plains of western Kansas, Colorado, Wyoming, and Utah, formicaries of an ant, which he had suspected to be the same as the agricultural ant. Having submitted specimens of the ant to the Rev. Dr. McCook, he was informed they pertained to a different species, the *Myrmica occidentalis* of Cresson.

The formicaries of this ant include a circular space from three to eighteen feet in diameter with a central cone of less than one-third the diameter at base, and from ten to eighteen inches high.

The circular space is usually devoid of every vestige of vegetation, rarely presenting even the stump of a plant. Occasionally, however, it retains near its boundary some grasses, usually bunches of *Eriocoma* or *Triticum.* The space is mostly level and clear of loose soil, and if stony the pebbles are firmly impacted. The central cone is composed externally of small loose gravel stones, carried by the ants from the interior of the nest. The interior of the cone is composed of finer material, and is excavated into galleries. The finer soil forming the walls of these galleries is mingled with root fibres. These suggest the probability of being retained to give greater coherence to the friable soil. The larger stones on the exterior of the cone were found by weighing to be six times heavier than the workers who carried them to their place. The entrance to the interior of the formicaries consisted usually of one or two openings near the base of the cone.

The outside of the circular formicaries are closely and often densely skirted with vegetation, especially by sage bushes, *Artemesia tridentata*, grease wood, *Sarcobatus vermiculatus*, etc.

Accidentally, Prof. L. continued, he made an observation that rendered it probable the *A. occidentalis*, like many other ants, fostered insects for their saccharine productions. Noticing several ants carrying what he supposed to be large stones into their nests, on closer examination these proved to be a large species of *Coccus*. A specimen of this insect was about the one-fourth of an inch long and the one-fifth of an inch broad, of a pale pinkish hue. The body, independent of the head, exhibited ten segments, of which the thoracic ones possessed short limbs ending in a single, black, curved unguis. The anterior pair of limbs were twice the size of the others. The antennæ were fuscous and eight-jointed. The source of the coccus was sought in the vicinity of the formicary, but not found. *Opuntia* grew abundantly in the neighborhood, but no cocci were upon it.

On a Stone Axe.—Mr. JOHN FORD presented fifteen species of fossil land and fresh-water shells, all of the quaternary period, a stone axe or celt, a sample of Lignite, and a bone, belonging to the genus *Canis*.

These were collected by himself and a friend in a cutting for a roadway made through the outer bluff on the margin of the Mississippi River, a short distance northwest of Alton, Ill. The axe, which is somewhat unique in form, has an especial interest, owing to the peculiar conditions attending its discovery. The roadway referred to is about twenty-five feet in width, forming a sort of terrace running parallel with the river, but some fifty feet above it. From the outer edge of this the bluff slopes to the water, while the inner edge is flanked by an escarpment composed entirely of natural deposits left *in situ* by the workmen. In height the latter is about equal to the width of the cutting, thus making the whole vertical measurement from the present surface of the river to the top of the bluff some seventy-five feet. It was in the face of this perpendicular wall, from three to five feet above the roadway, and twenty feet below the summit, that all the specimens under consideration were found.

The presence of land and fresh-water shells may be accounted for on the theory of deposition at a time when the Mississippi, or what is more probable, a great fresh-water lake covered that portion of the country, at an elevation much higher than the present river surface. The waves of this lake, dashing against the loftier limestone bluffs that still remain unaltered a few rods further inland, doubtless threw down myriads of land shells. This same force brought in large quantities of fresh-water shells, and these, mingling with the others, aided in forming the vast pile of debris of which the outer bluff is principally composed. The same theory may explain the presence of the wolf bone and Lignite, but it can reveal little or nothing in regard to the axe. The wall referred to presented in every part a solid front, without fissure or crevice, everywhere hard and impenetrable, except by pick or crowbar, and yet, twenty feet under the surface, within this stony matrix deposited by water thousands of years ago, laid the evi-